

CLAIMS

1. A device for selecting an operating mode of an integrated circuit, comprising:

- a ROM storing at least one predetermined value formed of data words;
- 5 a non-volatile programmable memory controllable to store said predetermined value;
- a comparator indicating how many data words of the value stored in the programmable memory are identical to the data words of the predetermined value; and
- 10 control means deactivating a selection signal for selecting the operating mode when the number of identical words is greater than a predetermined threshold.

2. The device of claim 1, wherein the value stored in the programmable memory varies with time and the device comprises writing means for, when the selection signal is deactivated, rewriting at intervals the predetermined value into the
15 programmable memory.

3. The device of claim 2, wherein said writing means are provided to rewrite the predetermined value into the programmable memory upon each powering-on of the integrated circuit when the selection signal is deactivated.

20 4. The device of claim 2, wherein said writing means, the comparator, and the control means are implemented in software form by a microprocessor.

25 5. The device of claim 1, wherein said threshold corresponds to from 70% to 90% of the number of compared words.

30 6. An integrated circuit comprising the device of claim 1 and further comprising a functional block provided to operate in a first operating mode when the selection signal is activated and to operate in a second operating mode otherwise, the functional block enabling controlling the programmable memory to store the predetermined value.

7. A method for selecting an operating mode of an integrated circuit between a reserved mode and a user mode, comprising:

a) determining how many data words of a value stored in a non-volatile programmable memory of the circuit are identical to data words of at least one predetermined value stored in a ROM of the circuit; and

b) selecting the user mode when the number of identical words is greater than a predetermined threshold.

8. The method of claim 7, wherein said threshold corresponds to from 70% to 10 90% of the number of words of the predetermined value.

9. A method for locking the user mode selected by the implementation of the method of claim 7, comprising preventing storage of a value other than the predetermined value in the programmable memory.

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10. The user mode locking method of claim 9, wherein the predetermined value is copied into the programmable memory at least at each powering-on of the circuit.

11. A device for selecting an operating mode of an integrated circuit, 20 comprising:

a read-only memory configured to store at least one predetermined value including data words;

a non-volatile programmable memory configured to store the predetermined value in response to a control signal;

25 a comparator configured to indicate a number of data words in the programmable memory that are identical to the data words of the predetermined value; and

a control circuit configured to deactivate a mode select signal when the number of identical words indicated by the comparator is greater than a predetermined threshold.

30 12. A device as defined in claim 11, wherein the control circuit is configured to enable rewriting of the programmable memory when the mode select signal is inactive.

13. A device as defined in claim 12, wherein the control circuit is configured to enable rewriting of the programmable memory on power up.

14. A device as defined in claim 12, wherein the control circuit is configured to 5 enable rewriting of the programmable memory periodically.

15. A device as defined in claim 11, wherein the programmable memory comprises a ferromagnetic memory.

10 16. A device as defined in claim 11, wherein the predetermined threshold is in a range from 70% to 90% of the number of words of the predetermined value stored in the read-only memory.

15 17. A device as defined in claim 11, wherein the control circuit is configured to control two or more reserved modes.

18. A device as defined in claim 11, wherein the control circuit is configured to control two or more user modes.

20 19. A device as defined in claim 11, wherein the control circuit is configured to enable a user mode upon a first power up of the integrated circuit after deactivation of the mode select signal.

25 20. A device as defined in claim 11, wherein the comparator requires byte-to-byte identity of the data words in the programmable memory and the data words of the predetermined value.

30 21. A device as defined in claim 11, wherein the comparator requires bit-to-bit identity of the data words in the programmable memory and the data words of the predetermined value.

22. An integrated circuit comprising:

a mode select device for selecting an operating mode of the integrated circuit, comprising:

a read-only memory configured to store at least one predetermined value including data words;

5 a non-volatile programmable memory configured to store the predetermined value in response to a control signal;

a comparator configured to indicate a number of data words in the programmable memory that are identical to the data words of the predetermined value; and

10 a control circuit configured to deactivate a mode select signal when the number of identical words indicated by the comparator is greater than a predetermined threshold; and

15 a functional block for providing the control signal to the mode select device and configured to operate in different operating modes according to a state of the mode select signal.

23. An integrated circuit as defined in claim 22, wherein the functional block is configured to operate in a reserved mode in response to an active state of the mode select signal and to operate in a user mode in response to a deactivated state of the mode select signal.

24. A method for selecting an operating mode of an integrated circuit, comprising:

storing in a read-only memory at least one predetermined value of data words;

25 storing the predetermined value in a non-volatile programmable memory in response to a control signal;

determining a number of data words in the programmable memory that are identical to the data words of the predetermined value; and

30 deactivating a mode select signal when the determined number of identical data words is greater than a predetermined threshold.

25. A method as defined in claim 24, further comprising rewriting the

predetermined value into the programmable memory at intervals after the mode select signal is deactivated.

26. A method as defined in claim 24, wherein the steps of determining and
5 deactivating are performed under software control.

27. A method as defined in claim 24, wherein the steps of determining and
deactivating are performed under hardware control.

10 28. A device for selecting an operating mode of an integrated circuit,
comprising:

a read-only memory storing at least one predetermined value of data words;
a non-volatile programmable memory storing the predetermined value in response
to a control signal;

15 means for determining a number of data words in the programmable memory that
are identical to the data words of the predetermined value; and

means for deactivating a mode select signal when the determined number of
identical data words is greater than a predetermined threshold.